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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/043,761

01/10/2002

Diao Xu

9346-018US

7264

(TW/PSC/I.4929)

570

7590

01/16/2004

EXAMINER

FOX, JOHN C

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ONE COMMERCE SQUARE
2005 MARKET STREET, SUITE 2200
PHILADELPHIA, PA 19103-7013

ART UNIT

PAPER NUMBER

3753

DATE MAILED: 01/16/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/043 761

Applicant(s)

Examiner

Fyo

Group Art Unit

3713

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 10/31/07
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-18 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 5-11 is/are allowed.
- ☒ Claim(s) 1-4, 12-18 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

Art Unit: 3753

This action is responsive to the communication filed October 31, 2003.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4 and 12-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Gravesen et al in view of Shikida et al. Gravesen et al show an electrostatic microvalve where in Figure 7 there is shown one inlet 30 and two independently activated outlets 31, 32. The Figure 7 valve is biased closed and activated to open, see column 8, lines 5-12.

The Gravesen et al valve is read as being made by micromachining techniques since it is a micro valve, and is read as being integral.

Gravesen et al show the claimed valve except for rectangular orifices and an explicit disclosure of being made from silicon, and sequential actuation of plural valves. Shikida et al shows another microvalve which has rectangular orifices and is made from silicon. It would have been obvious for one of ordinary skill in the art to have used such rectangular orifices as taught by Shikida et al in the valve of Gravesen et al to improve the

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sealing, for example, and to make the Gravesen et al out of silicon to take advantage of the known silicon micromachining techniques. Shikida et al in Figure 18 shows a sequential actuation of plural valves to obtain discreet control of fluid flow. It would have been obvious for one of ordinary skill in the art to have used such a plural valve construction in Gravesen et al and to provide sequential actuation to similarly obtain discreet control of flow thereby.

Claims 5-11 are allowable over the prior art of record.

Applicant's amendment necessitated the new grounds of rejection.

Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY

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EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Any inquiry concerning this communication should be directed to Examiner Fox at (703) 308-2595 or John.Fox@uspto.gov. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861. The fax number for TC 3700 is 703-872-9302. For responses after final the fax number is 703-872-9303. The Supervisory Primary Examiner for Art Unit 3753 is John Rivell who can be reached at (703) 308-2599 or at John.Rivell@uspto.gov.



JOHN FOX
PRIMARY EXAMINER
ART UNIT 3753

jcf
January 15, 2004